

# Boston Continues to Lead Nation in NIH Awards

Edges away from its rivals



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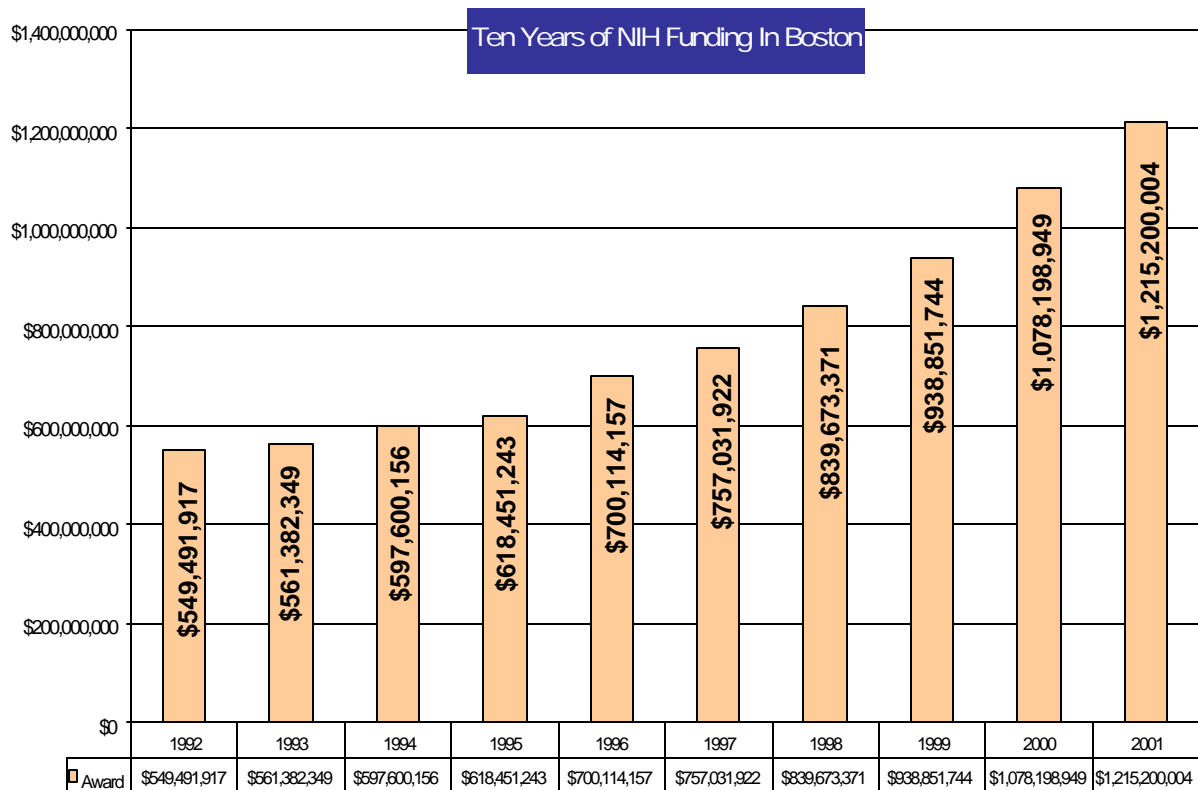
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# **BOSTON CONTINUES TO LEAD NATION IN NIH AWARDS** **Edges away from its rivals**

## **Ten Years of NIH Funding in Boston**

For the eighth straight year, Boston emerged as the highest-ranking city in the United States for National Institutes of Health (NIH) grant awards, more than doubling its receipts over the decade and edging away from its closest competitors. Boston received 3,269 awards totaling more than \$1.2 billion in FY 2001. Of that total, 2,858 were research grants amounting to more than \$1.1 billion and 152 were training grants adding up to about \$42 million. (See Figure 1.)



**Figure 1. Ten Years of NIH Funding in Boston**

In the two years since the last NIH report appeared in September 2000, Boston has received a total of \$2.3 billion in NIH support. Boston received \$1.1 billion in FY 2000, up 14.8% over the FY 1999 figure, and more than \$1.2 billion in FY 2001, up 12.7% over the FY 2000 total.

## **Comparison with Leading Cities**

Since 1994, Boston has led all U.S. cities in NIH funding, including New York City, which has ranked second since that time. (See Table 1.) New York City, however, made a huge jump between FY 2000 to FY 2001, receiving nearly \$1.1 billion in FY 2001 compared with \$865 million in the previous year – a 27.2% increase, which more than made up for the city's 0.6% gain between FY 1999 and FY 2000.

**Table 1. City Awards and Percent Gained in 2001 for Top Five Cities**

<b>City</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>Percent Increase*</b>
Boston	\$1.1 billion	\$1.2 billion	12.7%
New York City	\$865 million	\$1.1 billion	27.2%
San Diego	\$681 million	\$755 million	10.9%
Philadelphia	\$560 million	\$659 million	17.7%
Baltimore	\$561 million	\$618 million	10.2%

\* Percents calculated from exact totals, not rounded totals shown in table

Despite New York City's impressive gain between FY 2000 and FY 2001, however, Boston still received 14.3% more dollars than NYC in FY 2001. In addition, from 1994 to 2001, Boston's lead over NYC swelled from \$2.1 million to \$152.3 million.

Increased federal funding for NIH research has resulted in other cities also receiving more award money than in past years. Despite the increases, however, the percentage gained by other cities has, in many cases, not been as great as Boston's.

In 2001, San Diego retained its third-place ranking in total dollars awarded among the top five cities, receiving \$755 million in NIH funding - a 10.9% jump in awards compared with the nearly \$681 million received the previous year. However, San Diego's percentage gain was lower than in the previous two years. San Diego grew by 17.9% in FY 2000 and by a whopping 23.4% boost in FY 1999.

Philadelphia boosted its position to fourth place in 2001, garnering \$659 million - an impressive 17.7% jump over 2000's figure of \$560 million. Baltimore slipped to fifth position from fourth between 2000 to 2001 despite receiving more funding. Baltimore took in \$561 million in 2000, but boosted its awards to \$618 million in 2002, a 10.2% increase.

Over the past five years, Boston received \$4.8 billion in NIH awards, a 60.5% gain that outpaced the top five cities. (See Table 2.) In comparison, San Diego's percentage increase was 59.3%. The next highest percentage gains were Baltimore's 58.6%, Philadelphia's 57.6%, and New York's 52.4%, respectively.

**Table 2. Five Year NIH Total Awards and Percent Gained**

City	Five Year Total	Percent Gain
Boston	\$4.8 billion	60.5%
San Diego	\$3.0 billion	59.3%
Baltimore	\$2.5 billion	58.6%
Philadelphia	\$2.6 billion	57.6%
New York City	\$4.3 billion	52.4%

### **Boston's Share of NIH Funding**

In the five-year period between 1997 and 2001, the top five cities received more than \$17 billion in NIH funding. During that time, Boston's share averaged 28.2% of the total awards for the five cities. Generally, the city's percentage share remained fairly stable around that 28.2% figure, although in FY 2000 Boston did earn 29.7% of the total. (See Table 3.)

**Table 3. Boston's Share of Leading City Awards over Five Years**

Year	Boston Total	Five City Total	Boston's Percentage Share
2001	\$1.2 billion	\$4.3 billion	27.9%
2000	\$1.1 billion	\$3.7 billion	29.7%
1999	\$939 million	\$3.4 billion	27.8%
1998	\$840 million	\$3.0 billion	28.3%
1997	\$757 million	\$2.7 billion	27.7%
Five Year Total	\$4.8 billion	\$17.1 billion	28.2%

Nationally, Boston received an 8.2% share of the total amount awarded in the United States last year, slightly below its five-year average of 8.3%. (See Table 4.)

**Table 4. Boston's Share of National NIH Awards over Five Years**

Year	Boston Total	National Total	Boston's Percentage Share
2001	\$1.2 billion	\$14.9 billion	8.2%
2000	\$1.1 billion	\$13.0 billion	8.3%
1999	\$939 million	\$11.2 billion	8.4%
1998	\$840 million	\$9.8 billion	8.6%
1997	\$757 million	\$9.0 billion	8.4%
Five Year Total	\$4.8 billion	\$57.9 billion	8.3%

In FY 2001, New York received 7.1% of the total NIH funds awarded, San Diego 5.1%, Philadelphia 4.4%, and Baltimore 4.2% of the national NIH awards. Like Boston, each city experienced a slight decline in its share of NIH awards with the exception of New York, which rose from 6.7 percent.

### **Boston's Top NIH Award Recipients**

One reason Boston has continually excelled in attracting NIH funding is the strong intellectual capital that is produced by and continues to attract people to some of the best colleges and universities, hospitals and medical research facilities in the country. These institutions, along with numerous independent research facilities, have made Boston a leader in attaining a variety of R&D funds, including NIH awards. Table 6 shows the top ten recipients of NIH funding in Boston. The list is a veritable "Who's Who" of the city's top institutions, which together have brought in more than \$1.1 billion in NIH awards, or 91% of the city's total.

**Table 5. Top Ten Recipients of NIH Funding in Boston in FY 2001**

<b>Rank</b>	<b>Institution/Firm</b>	<b>Amount</b>
1	Harvard University (Boston Campuses incl. Medical School and School of Public Health)	\$ 235,835,072
2	Massachusetts General Hospital	\$ 208,957,323
3	Brigham and Women's Hospital	\$ 177,566,210
4	Boston University	\$ 118,975,449
5	Beth Israel Deaconess Medical Center	\$ 98,083,406
6	Dana-Farber Cancer Institute	\$ 97,271,649
7	Children's Hospital	\$ 70,071,822
8	Tufts University Boston Campus	\$ 41,976,305
9	New England Medical Center	\$ 30,128,739
10	Boston Medical Center	\$ 26,358,765
<b>Total</b>		<b>\$1,105,224,740</b>

### **Colleges, Universities and Medical Schools**

Boston's world-renowned colleges, universities and medical schools earned a total of \$409 million in 2001. Harvard University's Boston campus attracted more than \$235 million, with its Medical School receiving \$134 million, or more than half of the total. Boston University was second in the city with almost \$119 million in awards. Nearly \$81 million went to B.U.'s School of Medicine and another \$32 million to other parts of the school. Tufts University Medical School in Boston followed, earning more than \$2.8 million. Northeastern University, the University of Massachusetts/Boston, New England College of Optometry and Simmons College also received awards.

## **Hospitals**

Boston's hospitals continue to attract funding, comprising the top five independent hospitals in the nation in terms of receiving NIH awards, and seven out of the top 14. In FY 2001, Massachusetts General Hospital was again the leader in Boston, receiving \$209 million overall. MGH was followed by Brigham and Women's Hospital with \$178 million, Beth Israel Deaconess with \$98 million, Dana-Farber with \$97 million and Children's Hospital with \$70 million. Following those institutions were New England Medical Center with \$30 million, Boston Medical Center with \$26 million, Massachusetts Eye and Ear Infirmary with \$11 million and St. Elizabeth's Medical Center with \$6 million. Spaulding Rehabilitation Center also received NIH funding.

## **Longwood Medical Area**

The Longwood Medical Area, home to a number of these leading medical research facilities and university medical schools, remained a hotbed of medical research, bringing in a total of \$484 million. Brigham and Women's Hospital was the leader among Longwood Medical Area hospitals with nearly \$178 million in NIH funding. Beth Israel Deaconess Medical Center was next among the Longwood institutions with \$98 million, followed by the Dana-Farber Cancer Institute with \$97 million and Children's Hospital at \$70 million rounding out the top five.

If the Longwood Medical Area were considered a city, Longwood alone would rank eighth in the nation in NIH funding, just below Los Angeles.

## **Private Firms and Non-Profits**

Private firms in the Boston area received a far greater share of NIH awards than in the past, earning \$8.5 million in 2001 compared with almost \$3 million in 1999. These included medical and research firms such as Ambergen, Inc. with nearly \$1.5 million and Cambridge Research and Instrumentation with \$1.1 million. Some of the other private institutions include Cortechs Labs, Inc. with nearly \$900,000, Biotransplant, Inc. with \$790,000, Talking Lights with \$750,000 and Altech, Inc. with \$626,000.

Boston's nonprofit firms also did extremely well, garnering more than \$72.4 million. Among the non-profit organizations in Boston receiving NIH dollars were: the Center for Blood Research with \$21.7 million, the Joslin Diabetes Center with \$18.1 million, Schepens Eye Research Institute with \$13.6 million, the Forsyth Institute with \$9.3 million and Hebrew Rehabilitation Center for Aged with \$4.8 million. Other Boston non-profits winning NIH awards include the Fenway Community Health Center with \$2.3 million, Judge Baker's Children's Center with \$1.1 million, and Massachusetts Mental Health Institute with \$1 million.

## **Future**

Boston is recognized as a worldwide leader in health care, medical research and education. Since Boston first became the leading city in NIH funding in 1994, it has nearly doubled the amount of funding received, and this year alone won \$1.2 billion. This funding plays a critical role in supporting the breakthroughs in medical research, technology, and education and training which have made Boston an international model.

Boston is not only holding its lead, but also edging away from its major competitors among the top five cities in the country. But other cities, however, are beginning to follow Boston's example by vying more energetically for research dollars and emphasizing their own intellectual strengths. Proof of increased competition can be seen by the fact that Boston, despite its lead in amount of funding, received an 8.2% share of the total awarded in the United States last year, slightly below its five year average of 8.3% and continuing a slight decline begun in FY 1999.

The city, then, cannot take its successes in research funding for granted. For that reason, the Boston Redevelopment Authority has encouraged the building of new research facilities to help increase the pace of cutting-edge research and development in health care and biotechnology. From 1991 to 2000, almost 2 million square feet of new research and laboratory space were built in Boston. Today, there are 4.1 million square feet in the pipeline.

Boston is also poised to begin a new era of growth, which will further bolster its ability to compete. This new era will be fueled by the completion of the Big Dig and the billions of dollars in new infrastructure which will come on line, as well as the planned development of the South Boston waterfront as the city's new commercial frontier.

In addition, several specific projects are underway to enhance the city as a research center in the Longwood Medical Area. These include:

- Children's Hospital is continuing construction of a new 11-story clinical research building that began in September 2002. In addition, the BRA approved Children's Hospital's proposal for a new clinical building.
- Harvard Medical School is building a new \$250 million biomedical research facility.
- The Merck Corp. is constructing a new \$300 million research building on the campus of Emmanuel.
- Brigham & Women's Hospital has begun site preparation for a new \$100 million clinical research facility and a new \$87 million ambulatory center. It will also lease 112,000 s.f. of office space in One Brigham Circle, which is under construction.

In keeping with its efforts to ensure that Boston residents share in the city's economy, the BRA is asking employers in the Longwood Medical Area to develop programs to hire and train Boston residents.

Plans are also underway for future development of the Longwood Medical Area. The BRA recently approved a new masterplan by the Massachusetts College of Pharmacy that includes building a new 6-story addition. This addition will house classrooms, a library and labs, as well as a 270-bed dormitory, and a 70-car underground garage. Beth Israel Deaconess Hospital and Lyme Properties have filed plans with the BRA to construct two buildings – one 600,000 s.f. research laboratory at Blackfan Circle and a 440,000 s.f. lab and research building to replace an existing parking garage. The Joslin Diabetes Center is planning to construct a 500,000 s.f. lab with office and clinical space in addition to a 160-unit residential tower with parking

Thanks to its continuing tradition for intellectual capital and its planning for future development of new facilities, Boston should remain a national and international leader in health care, education and medical research.

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**Appendix. NIH Recipients in the City of Boston in FY 2001.**

<b>Institution/Firm</b>	<b>Amount</b>	<b>Institution/Firm</b>	<b>Amount</b>
Harvard University Boston Campuses	\$235,835,202	Cambridge Research & Instrumentation	\$1,121,159
Massachusetts General Hospital	\$208,957,323	Judge Baker Children's Center	\$1,119,146
Brigham and Women's Hospital	\$177,566,210	Massachusetts Mental Health Institute	\$1,012,153
Boston University	\$118,975,449	Cortechs Labs, Inc.	\$899,776
Beth Israel Deaconess Medical Center	\$98,083,406	Biotransplant, Inc.	\$790,575
Dana-Farber Cancer Institute	\$97,271,649	Talking Lights, LLC	\$750,157
Children's Hospital	\$70,071,822	Simmons College	\$662,787
Tufts University Boston Campus	\$41,976,305	Altech, Inc.	\$626,251
New England Medical Center	\$30,128,739	Adipogenix, Inc.	\$602,471
Boston Medical Center	\$26,358,765	Neural Arts	\$578,551
Center for Blood Research	\$21,701,028	Alem Associates, Inc.	\$475,000
Joslin Diabetes Center	\$18,080,439	Delsys, Inc.	\$375,628
Schepens Eye Research Institute	\$13,602,116	Museum of Science	\$282,772
Massachusetts Eye and Ear Infirmary	\$11,216,899	Spaulding Rehabilitation Hospital	\$259,766
Forsyth Institute	\$9,306,572	Mass. State Dept. of Public Health	\$234,830
Northeastern University	\$6,410,136	Simpres, Inc.	\$211,759
St. Elizabeth's Medical Center	\$5,981,238	Nano Frames	\$196,418
Hebrew Rehabilitation Center for Aged	\$4,821,691	Mallory Institute of Pathology	\$159,898
University of Massachusetts Boston	\$2,476,652	Iquum, Inc.	\$127,787
Fenway Community Health Center	\$2,302,325	Exhale Therapeutics, Inc.	\$99,409
New England College of Optometry	\$1,977,166	Parent/Professional Advocacy League	\$15,580
Ambergen, Inc.	\$1,487,999	JSI Research and Training Institute	\$9,000